IDAHO
DEPARTMENT OF FISH & GAME

Joseph C. Greenley, Director

FEDERAL AID TO FISH AND WILDLIFE RESTORATION

Job Performance Report

Project F-70-D-2

CHEMICAL REHABILITATION OF FISHERIES

Period Covered: 1 March 1977 to 28 February 1978

By

Herbert Pollard
State Fishery Manager

June, 1978

JOB PERFORMANCE REPORT

State of Idaho Name: **CHEMICAL REHABILITATION OF FISHERIES**

Project: F-70-D-2

Job No. 1

Period Covered: 1 March 1977 to 28 February 1978

ABSTRACT

Chemical rehabilitation projects are conducted with the objectives of eradicating undesirable fish populations, reducing nuisance to anglers, reducing competition with game fish and improving the growth and survival of game fish to improve angling.

Six lakes were treated in 1977. These lakes are McArthur Reservoir, Soldiers Meadow Reservoir, Little Fish Lake, Crane Falls Lake, Little Camas Reservoir and Chesterfield Reservoir.

Author:

Herbert Pollard
State Fishery Manager

RECOMMENDATIONS

Chemical eradication of rough fish should be recognized as an important part of overall fishery management programs. Whenever undesirable fish populations create conditions detrimental to sport fishing, chemical eradication should be considered.

OBJECTIVES

Eradicate undesirable fish populations in Idaho waters.

Reduce competition with game fish and nuisance to anglers cause by rough fish.

Improve sport fishing by improving the growth and survival of game fish.

TECHNIQUES USED

Water levels and fish populations are monitored in a number of waters where rough fish occur to determine the need and feasibility of chemical eradication of rough fish.

When rough fish, or stunted populations of game fish, increase to the point where they are a serious detriment to the sport fishery, and low water levels occur so that chemical treatment is economically feasible, chemical treatment is conducted.

Ordinary techniques include application of emulsified rotenone or concentrated liquid fintrol with boat bailer, spray pump or drip station and hand scattering fintrol sand.

FINDINGS

McArthur Lake

McArthur Lake at one time supported a trophy brook trout fishery, producing many brook trout in excess of two pounds including the former state record. Unauthorized introductions of yellow perch, brown bullhead and pumpkinseed sun fish resulted in a stunted overpopulation of warm water game fish and a severe reduction in the quality of trout fishery.

After public meetings where alternatives including introduction of predators (largemouth bass), chemical treatment and retention of status quo were discussed, it was decided to remove the warm water game fish and reestablish a brook trout fishery.

The reservoir was drawn down to reduce volume treated. Because of the marshy character of the basin aerial application using a helicopter was used.

Two-hundred fifty gallons of emulsified rotenone mixed 1:1 with water were applied to the reservoir surface. Another 65 gallons of rotenone was used to treat Deep Creek, Dodge Creek and several smaller tributaries. Toxic water was contained by the dam until the reservoir refilled.

Hundreds of thousands of perch, bullheads, and sunfish from 2 to 7 inches long and a very few trout (less than 1%) were killed. Gill netting and shore observations since the treatment have produced no surviving warm water fish. The reservoir has been restocked with 132,000 brook trout fingerlings plus catchable-size rainbow trout to provide a fishery in 1978.

Future plans call for continued stocking of brook trout and management as a trophy brook trout lake in conjunction with waterfowl production.

Soldiers Meadow Reservoir

Soldiers Meadow Reservoir provides domestic and irrigation water for the Lewiston Orchards area. It has provided a good fishery based on fingerling and catchable rainbow trout plants for many years. In recent years a tapeworm infestation has severely degraded the survival and body condition of trout in the reservoir.

Dr. G. W. Klontz, Fish Pathologist, of the University of Idaho, recommended removal of the trout population in order to break the life cycle of the parasite. Drought conditions in 1977 caused the reservoir active storage to be completely withdrawn in September.

Fifty-five gallons of rotenone were dispersed by boat-bailer into the remaining 100 acre feet of water on 22 September 1977. Many thousand dace and fewer than 800 trout were killed. Toxic water was contained in the reservoir until the pool refilled in 1978. The lake is scheduled for restocking with rainbow in 1978. We hope that removing all fish and letting the lake stand empty of fish for several months will reduce or eliminate the parasite infestation.

Little Fish Lake

Little Fish Lake is a 25-acre reservoir which Idaho Department of Fish and Game purchased in 1977 for use as a cutthroat brood stock lake. A small residual population of brook trout and rainbow trout were removed using fintrol (antimycin-A) to prevent competition and hybridization with westslope cutthroat brood stock.

Treatment took place on 14 November 1977. The main body of the reservoir was drained as far as possible and treated with fintrol concentrate mixed with water and applied with a portable fire pump at approximately 6 ppb. The tributary stream was flowing 1 to 2 cfs at the time of treatment. Approximately 2 miles of the stream and several beaver ponds were treated with fintrol-15 sand. Toxic water ws contained in the reservoir until after freeze up.

Very few trout were in the system; a few hundred small trout were killed in the stream and a few dozen catchable rainbow trout remaining in the reservoir basin were killed. The lake is scheduled for restocking with westslope cutthroat trout for brood stock development in 1978.

Crane Falls Lake

Crane Falls Lake has been designated for trophy trout management as detailed in the Annual Job Performance Report F-53-R-13, Job IVIII, by Mallet and Reid. Chemical treatment to eradicate competing species prior to restocking with trout was conducted on 30 September 1977.

One-thousand twenty gallons of emulsified rotenone was applied using boat bailers and a portable fire pump. Numbers of fish killed were estimated at 171 rainbow trout, 1,250 largemouth bass over 8 inches and 5,000 young-of-the-year, 200 adult bullhead catfish and 10,000 young-of-the-year, 8 black crappie and 3 bluegill sunfish.

The lake is scheduled for annual stocking with Kamloops strain rainbow trout and brown trout fingerlings in future years. Regulations designed to provide trophy fishing have been adopted with a bag limit of two fish over 16 inches, single barbless hooks are required and bait is prohibited.

Little Camas Reservoir

Drought conditions in 1977 caused Little Camas Reservoir to be drained for irrigation water. The reservoir normally covers 1,250 surface areas and is approximately 35 feet deep. By October, the pool was reduced to 5 surface acres with a maximum depth of 3 feet.

Little Camas had been a fair trout fishery with an insignificant rough fish problem. However, there was a population of fine-scale suckers, redside shiners and speckled dace present and anglers had reported catching yellow perch. Yellow perch have overpopulated in the reservoir in past years. The trout population was not expected to survive the winter, so chemical treatment was conducted to eliminate rough fish.

On 26 October, the pool area was treated with fintrol concentrate mixed with water and applied with a portable fire pump. Tributary streams within the reservoir basin were treated with fintrol-15 sand. The tributaries above the reservoir were not treated to avoid damage to an excellent wild trout population.

Approximately 800 rainbow trout and many thousand suckers, shiners and dace were killed. No yellow perch were found. The reservoir will be restocked with catchable rainbow to provide a fishery in 1978. Future stocking schedules include annual catchable and fingerling rainbow plantings.

Chestefield Reservoir

Treatment of Chesterfield Reservoir had been postponed for a number of

years because of high water levels. Drought conditions in 1977 made eradication of Utah chub and carp feasible.

A commercial seiner was contracted to salvage trout from the reservoir prior to treatment. Two seining operations yielded approximately 400 trout averaging 1.0 kg (2.2 lbs).

The remaining 200 acre feet of storage was treated with emulsified rotenone at 3.0 ppm on 25 August 1977. A complete kill of fish in the reservoir basin was achieved, however, Fort Hall Indian Reservation would not allow us to treat tributary streams on the reservation and some carp remain in the drainage.

The reservoir will be restocked with cutthroat, rainbow and hybrid fingerling and catchable rainbow.

Submitted by:

Herbert A. Pollard
State Fishery Manager

Approved by:

IDAHO DEPARTMENT OF FISH AND GAME

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Joseph C. Greenley, Director

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Stacy Gebhards, Chief
Bureau of Fisheries

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Jerry Mallet
Fishery Research Supervisor
Bureau of Fisheries